



File Wrapper of Rossin.

26

CLAIMS

1. A process for the transformation of a perfluoroalkane, said process comprising:

contacting the perfluoroalkane with aluminum oxide.

5

2. The process of claim 1 wherein the perfluoroalkane is contacted with said aluminum oxide at a temperature ranging from about 400°C to about 1000°C.

10

3. The process of claim 1 wherein said aluminum oxide is stabilized.

15

4. The process of claim 3 wherein the aluminum oxide is stabilized with an element selected from the group consisting of barium, calcium, cerium, phosphorus, chromium, cobalt, iron, lanthanum, magnesium, nickel, tin, titanium and zirconium.

5. The process of claim 3 wherein the aluminum oxide is stabilized with an element selected from the group consisting of molybdenum, tungsten and vanadium.

5 6. The process of claim 1 wherein said perfluoroalkane is contacted with said aluminum oxide in the presence of water and an oxidizing agent.

10 7. The process of claim 1 wherein the aluminum oxide is gamma phase aluminum oxide.

15 8. The process of claim 1 wherein the perfluoroalkane is contacted with said aluminum oxide at a temperature ranging from about 550°C to about 800°C.

9. The process of claim 3 wherein said aluminum oxide is stabilized with cobalt.

20 10. The process of claim 9 wherein said aluminum oxide is further stabilized with at least one element selected from the group consisting of cerium, titanium and zirconium.

11. A process for the transformation of a perfluoroalkane from a sample, said process comprising:

5 contacting the perfluoroalkane of the sample, at
a temperature ranging from about 400°C to about
1000°C, with water, an oxidizing agent, and a
composition, said composition comprising
aluminum oxide, cobalt and at least one element
10 selected from the group consisting of cerium,
titanium and zirconium.

12. The process of claim 11 wherein the composition comprises less than 50% by weight cobalt.

15 13. The process of claim 11 wherein the composition
comprises less than 50% by weight cerium, titanium or
zirconium.

20 14. The process of claim 11 wherein the oxidizing
agent is oxygen.

15. The process of claim 11 wherein the temperature ranges from about 550°C to about 800°C.

25 16. The process of claim 11 wherein the composition

comprises gamma phase aluminum oxide.

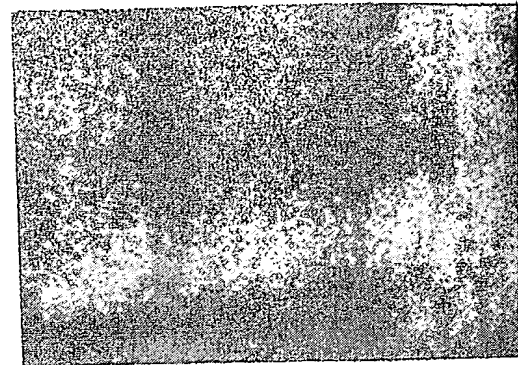
17. A process for the transformation of a perfluoroalkane, said process comprising:

5 contacting the perfluoroalkane with a composition, said composition comprising aluminum oxide and at least one element selected from the group consisting of barium, calcium, phosphorus, cerium, chromium, cobalt, iron,
10 lanthanum, magnesium, molybdenum, nickel, silicon, titanium, tungsten, vanadium and zirconium.

18. The process of claim 17 wherein the composition
15 comprises aluminum oxide and less than about 50% by weight cobalt.

19. The process of claim 18 wherein the composition
20 further comprises less than about 50% by weight cerium, titanium or zirconium.

20. The process of claim 17 wherein the composition comprises gamma phase aluminum oxide.



30

21. A composition for the transformation of a perfluoroalkane, said composition comprising:

aluminum oxide, less than 50% by weight cobalt,
and less than 50% by weight of at least one
element selected from the group consisting of
cerium, titanium and zirconium.

22. A composition for the transformation of a perfluoroalkane, said composition comprising:

aluminum oxide, and
at least one element selected from the group
consisting of barium, calcium, cerium, chromium,
cobalt, iron, lanthanum, magnesium, molybdenum,
nickel, tin, titanium, tungsten, vanadium,
yttrium and zirconium.

23. A composition for the transformation of a perfluoroalkane, said composition comprising:

aluminum oxide.

24. The composition of claim 23 further comprising a stabilizing agent.

25

25. The composition of claim 24 wherein the
stabilizing agent comprises at least one element
selected from the group consisting of barium, calcium,
cerium, chromium, cobalt, iron, lanthanum, magnesium,
5 phosphorus, nickel, silicon, titanium and zirconium.

26. The composition of claim 24 wherein the
stabilizing agent comprises at least one element
selected from the group consisting of molybdenum,
10 tungsten and vanadium.

Add C1
Add D2
Add E3